Provide Aerospace Products and Capabilities

Presentation to the

Earned Value Management Conference

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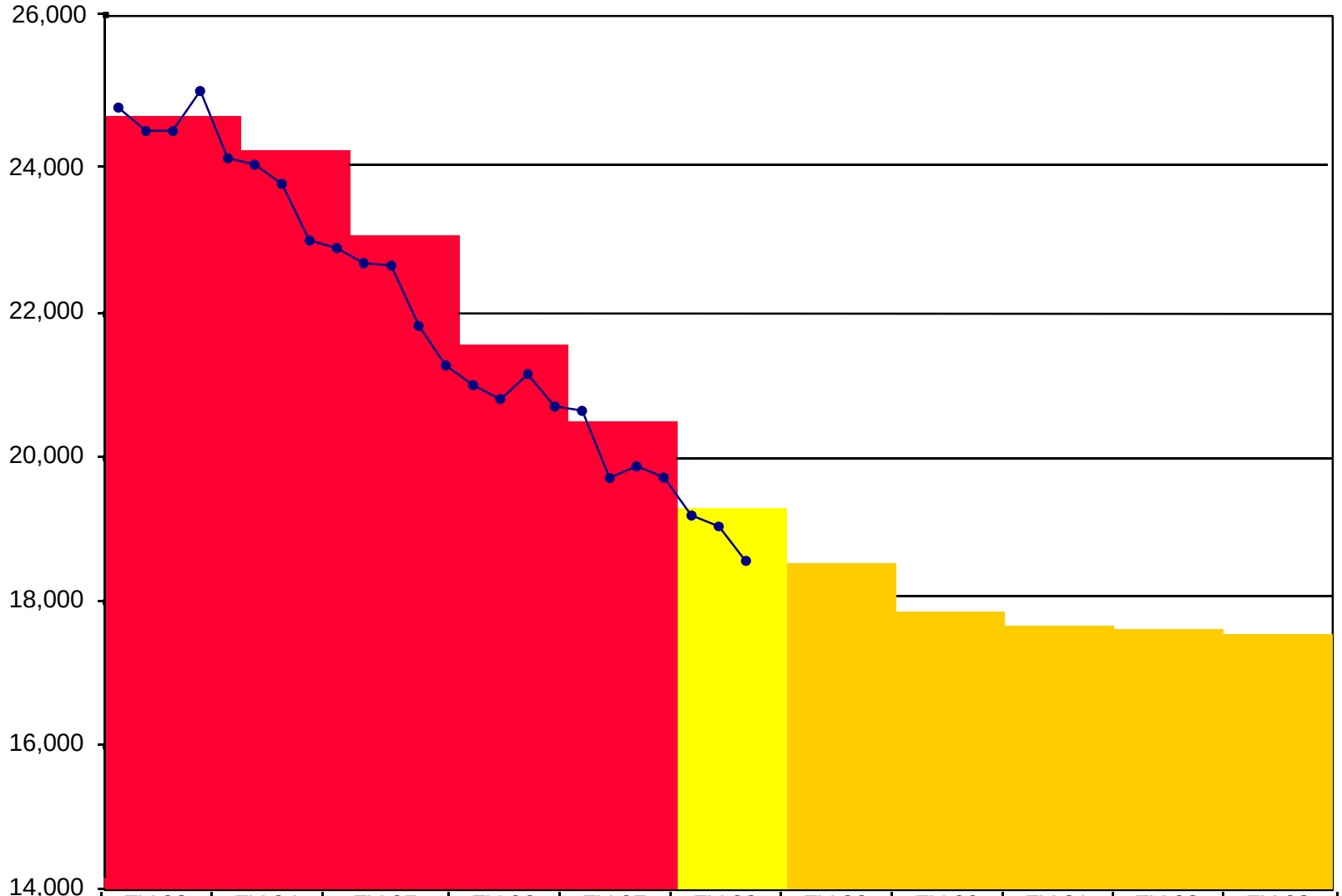
The Environment

- Resources are diminishing, both manpower and $.
- Projects are generally smaller and are allowed less time for development.
- Technology continues to develop quickly but is difficult to integrate into long duration programs.
- There is Government-wide emphasis on commercialization and technology transfer.
- Acquisition rules are changing and there are more options to attain goods and services.
- Management structure and responsibilities within NASA has changed.
- ***Measurement of performance is mandatory - We must be able to do what we say we're going to do.***
- Many initiatives are driving how we do the job; ISO 9000, single process, privatization, etc.

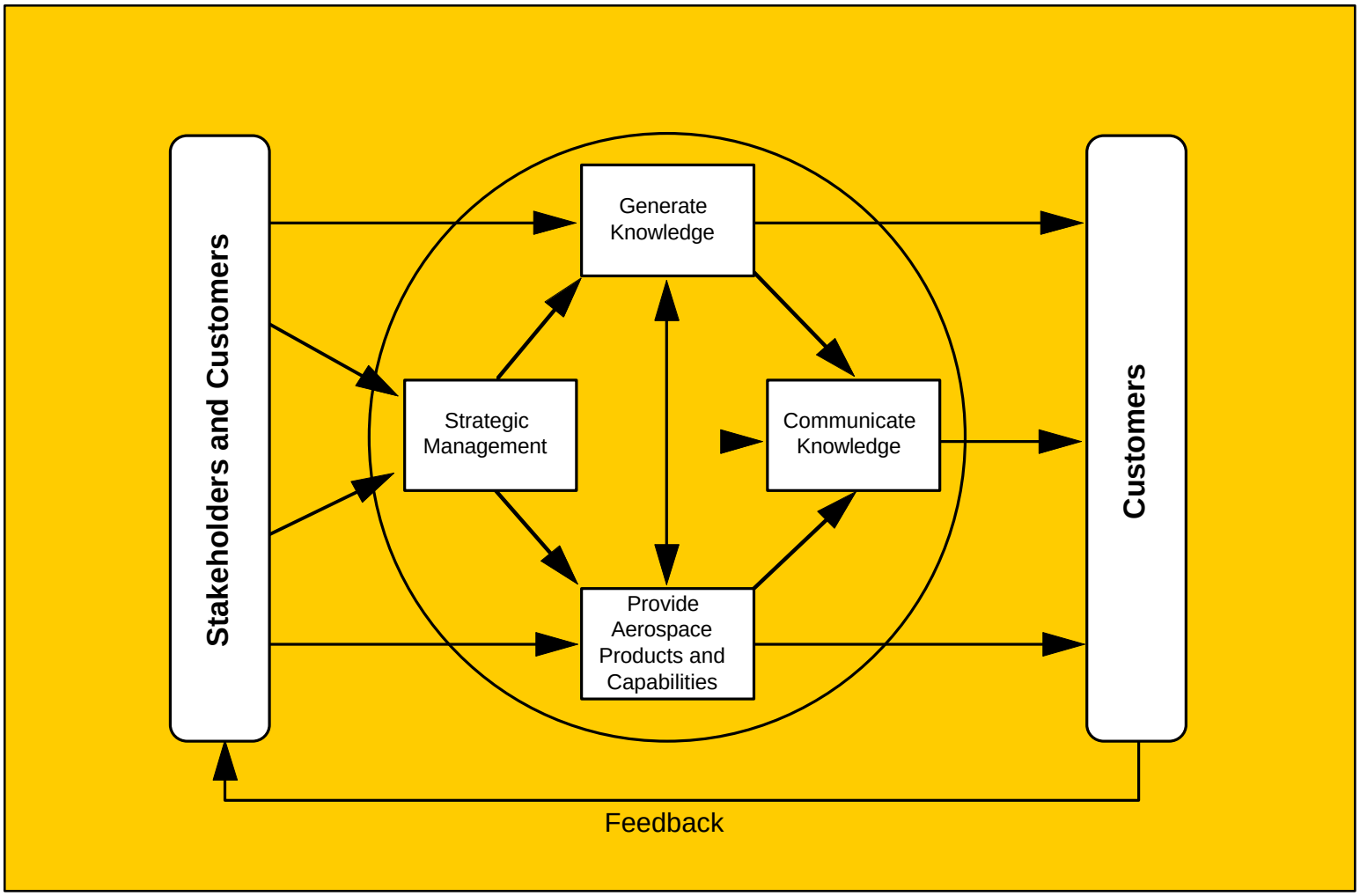
NASA FTE Civil Service Reduction Plan

With End of Quarter Actual Usage Rates



	FY 93	FY 94	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03
FTE Limit	24,731	24,265	23,075	21,555	20,501	19,290	18,527	17,845	17,655	17,607	17,544

Crosscutting Processes



So What Do We Do About It?

- Ensure work is focused on the strategic needs of the Agency.
- Always be on the lookout for new and better ways to do business.
- Enable “Fastrack” thinking for all projects.
- Think like a business- full-cost accounting demands TOTAL resource accountability.
- Keep learning and Be Flexible!
- Follow best practices-Move To Process Management.

Revolutionizing Program and Project Management

- **NPD 7120.4 Program/Project Management**
  - Established management system policy for development and operation of Programs and Projects (November 1996)

- **NPG 7120.5A Program and Project Management Processes and Requirements**
  - Integrated crosscutting process and process focused requirements to ensure the most efficient and effective product delivery (April 1998).

Objectives of NPG 7120.5A

- Establish a process managed approach adaptable to all Programs and Projects including technology development, space and ground systems development, and operations.
- Allow tailoring in Program/Project planning with appropriate levels of insight/oversight required by the risk, criticality, cost, etc. of the particular product or service.
- Build requirements around process products and interacting functions.
- Replace hard lines of Phases A, B, C, D, and E with flexible nonlinear approach.
- Incorporate interfaces with the other Agency crosscutting processes.
- Encourage innovation-make better, faster, cheaper possible.

Objectives Implementation

- Headquarters Level Requirements that authorize and enable Center process and requirements per ISO 9001
  - Tailoring of implementation of the requirements to the needs of the Program/project
    - all required elements must be addressed
    - must be a documented agreement with management
    - integrating process applicable to large and small efforts without preclassification, e.g.,. “Fastrack”
  - Innovation through application of risk assessment in the life-cycle decision process.
  - Defined management responsibility and accountability
    - Empowers program/project managers and incorporates needed insight and oversight

Meeting the Challenge: Themes of 7120.5A

- Process Tailoring
- ISO 9001 Compatibility
- End-to-End Customer Involvement
- Clear Program/Project Definition and ***Performance Assessment***
- Definitive Risk Management Planning and Decision Making
- Aggressive Technology Commercialization
- Missions enabled by Technology versus Technology derived from Missions

The Integrating Roadmap:
"Provide Aerospace Products and Capabilities Process"

Program/Project Management Process Elements

- **FORMULATION**
  - Definition of Programs/Projects that meet user need
- **APPROVAL**
  - GPMC process to approve or modify baseline documentation
- **IMPLEMENTATION**
  - Executes requirements and Plans
- **EVALUATION**
  - Customer and independent assessment

Document Structure

- Overview
- Program Management Process and Functional Requirements
- Project Management Process and Functional Requirements
- Program/Project Management Systems Requirements
- Appendices

Formulation

- Definition: The process that defines new programs/ projects that are consistent with and integral to Enterprise Strategic Plans and budget.
- Formulation includes the development of concepts, technical and resource requirements, project plans and agreements, and management plans.
- Primary responsibility for Formulation of Programs is with the Enterprise Associate Administrator.
- Primary responsibility for the Formulation of Projects within a Program is with the Program Lead Center Director.

Approval

- Definition: The process that provides formal authority to proceed to a program/project through an evaluation of the formulation products.
- Approval of a Program will include an Independent Assessment or Non-Advocate Review of all aspects of the Program.
- Responsibility for Approval is vested in the Governing PMC (GPMC), either at the Agency level (Programs) or the Lead Center level (Projects).
- Results in a signed Program Commitment Agreement (PCA) by which the ***success of the Program will be measured.***

Implementation

- Definition: The process that designs, builds, and sustains products and services including operations functions.
- The process includes technology development, commercialization planning and partnerships, acquisition and management control.
- The responsibility for Implementation of a Program is with the Lead Center.
- Responsibility for a Project may be at the Lead Center or a Supporting Center.

Evaluation

- Definition: The process of independent peer and customer assessment throughout the life of the program/project.
- Assessment is in terms of performance, management metrics, and customer satisfaction.
- The process uses external reviews resulting in evaluations given to the responsible officials.
- Primary responsibility for Headquarters directed external reviews is the Associate Administrator or the Chief Engineer for the Agency Program Management Council.
- Oversight is provided by the GPMC.

Appendices

- Appendix A: NODIS Document References List
- Appendix B: Definitions
- Appendix C: Acronyms
- Appendix D: Responsibilities for Program and Project Management
- Appendix E: Agency Program Management Council Charter
- Appendix F: Key Document Formats
- Appendix G: An Example of Tailoring - The Discovery Program
- Appendix H: Independent Reviews

-NPG 7120.5A-
Summary

- **Establish a process managed approach adaptable to all Programs and Projects including: technology development, space and ground systems development, and operations.**
- **Allows tailoring Program/Project planning according to size, complexity, criticality, and risk of the particular product or service.**
- **Build requirements around process products and interacting activities.**
- **Incorporate interfaces with the other Agency crosscutting processes.**
- **Encourage innovation.**
- **Provide training support system to implement NPG 7120.5A**

-NPG 7120.5A-
The Next Step

NPG 7120.5A Rollout

- ☆ **Phase I - Town Meeting (2 hr) with Center Program/Project Management key personnel**
  - Participants include Center Director, Deputy Admin., Enterprise AA, PAPAC Process Owner, Agency PPMI Director

- ☆ **Phase II - Follow-on training (1.5 days) at each Center to achieve complete introduction to NPG 7120.5A and training resources to support program/project teams**

Backup

-NPG 7120.5A-
Responsibilities

Deputy Administrator

(1) Support the Administrator in his/her responsibilities for overall NASA strategic management, budget allocation, and oversight, including new-start approval.

(2) Develop Agency-level PPM policy, processes, and requirements and providing oversight of their implementation.

(3) Assess candidate new-start readiness.

(4) Recommend which programs will be overseen by the NASA PMC.

(5) Ensure timely resolution of multiple Enterprise program and project issues.

(6) Serve as chairperson of the Agency's PMC and CIC.

(7) Serve as the Acquisition Executive for the Agency.

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Responsibilities

Chief Engineer

(1) Provide Aerospace Products and Capabilities - Process Owner

(2) Concur on the EAA's assignment of Lead Centers

-NPG 7120.5A-
Responsibilities (Cont.)

Enterprise Associate Administrators

(1) Provide program advocacy.
(2) Establish program objectives, requirements, and metrics.
(3) Recommend the level of GPMC oversight for each program.
(4) Recommend program responsibilities for Lead Centers and approving the assignment of project responsibilities according to the Program Plan.
(5) Recommend new programs to the Agency's PMC.
(6) Develop, coordinate, and maintain the PCA.
(7) Approve Program Plans.
(8) Assess program performance against requirements and customer expectations.
(9) Ensure timely resolution of multiple program and project issues within the assigned Enterprise.
(10) Serve as a member of the Agency's PMC and appropriate GPMC's.
(11) Allocate budgets to programs.
(12) Manage program formulation.
(13) Ensure that products and services meet customer requirements.
(14) Identify and develop interface with customers.

-NPG 7120.5A-
Responsibilities (Cont.)

Lead Center Director

(1) Serve as (or designate) chairperson of Lead Center PMC.

(2) Support the EAA in program formulation.

(3) Provide overall direction, control, and oversight of program implementation.

(4) Appoint the program manager.

(5) Approve the Program Plan with the EAA.

(6) Assign work to other Centers.

(7) Integrate institutional resources with program needs.

(8) Coordinate cross-Center activities.

(9) Ensure compliance to policy/standards.

(10) Develop and maintain program/project implementation policies and procedures, compliant with NPD 7120.4A, this document, and ISO 9000.

-NPG 7120.5A-
Responsibilities (Cont.)

Center Director

(1) Perform advanced concept studies in support of Agency and Enterprise Strategic Plans.

(2) Support the LCD in program formulation.

(3) Approve the Project Plan.

(4) Appoint the Project Manager.

(5) Implement and oversee the project.

(6) Develop and maintain program/project implementation policies and procedures, compliant with NPD 7120.4A, this document, and ISO 9000.

(7) Serve as (or designate) chairperson of the Center PMC, consistent with the Lead Center Director responsibilities.

-NPG 7120.5A-
Responsibilities (Cont.)

Program Manager

(1) Program planning, including recommendation of program objectives, requirements, guidelines, budget and milestones, and preparation of Program Plans and supporting development of PCA's.

(2) Develop, recommend, and advocate the program resources.

(3) Allocate budget to projects.

(4) Establish support agreements.

(5) Execute and overseeing the Program Plan .

(6) Control of program changes.

(7) Approve Project Plans and associated changes to these documents.

(8) Establish project performance metrics.

(9) Integrate the planning and executing of individual projects on programs comprised of multiple, interdependent projects.

(10) Review and report program/project performance.

(11) Comply with applicable Federal law, regulations, Executive orders, and Agency Directives.

-NPG 7120.5A-
Responsibilities (Cont.)

Project Manager

(1) Prepare and maintain the Project Plan, specifications, schedules, and budgets.

(2) Establish support agreements.

(3) Acquire and utilize participating contractors.

(4) Execute the Project Plan.

(5) Support the program management and integration.

(6) Report project performance and status, including contracts.

(7) Comply with applicable Federal law, regulations, Executive orders, and Agency Directives.

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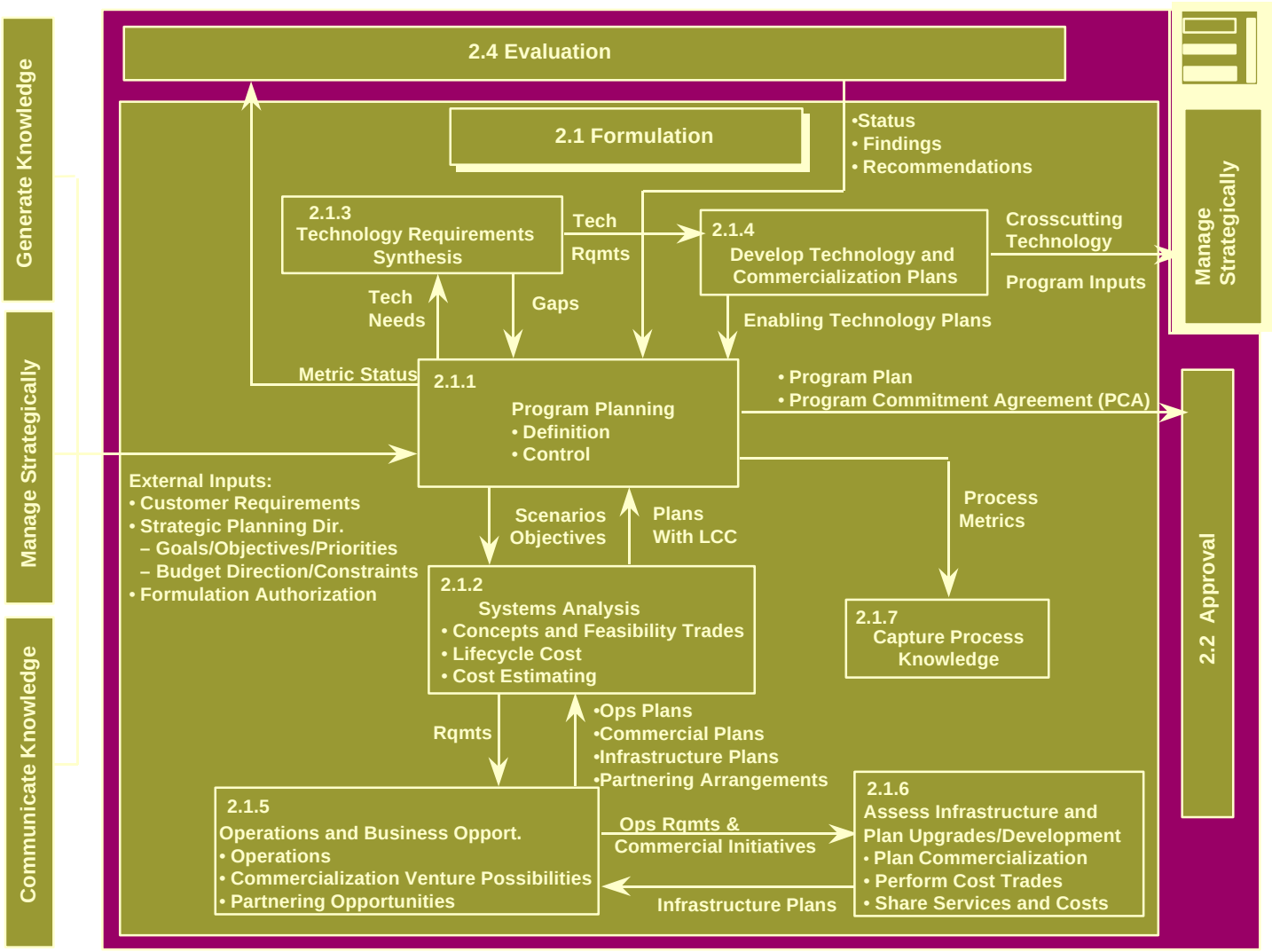
Formulation Subprocess



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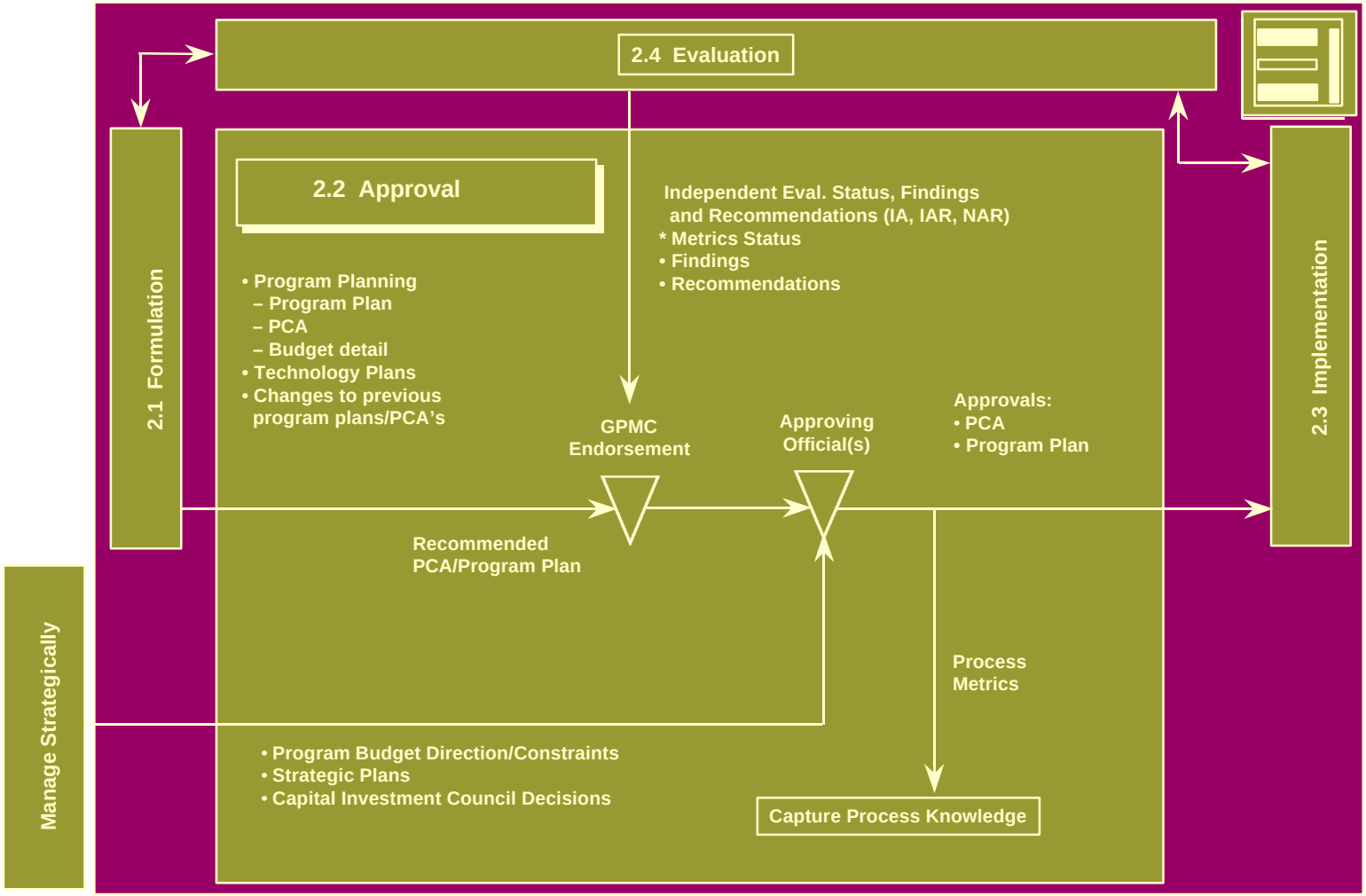
Approval Subprocess



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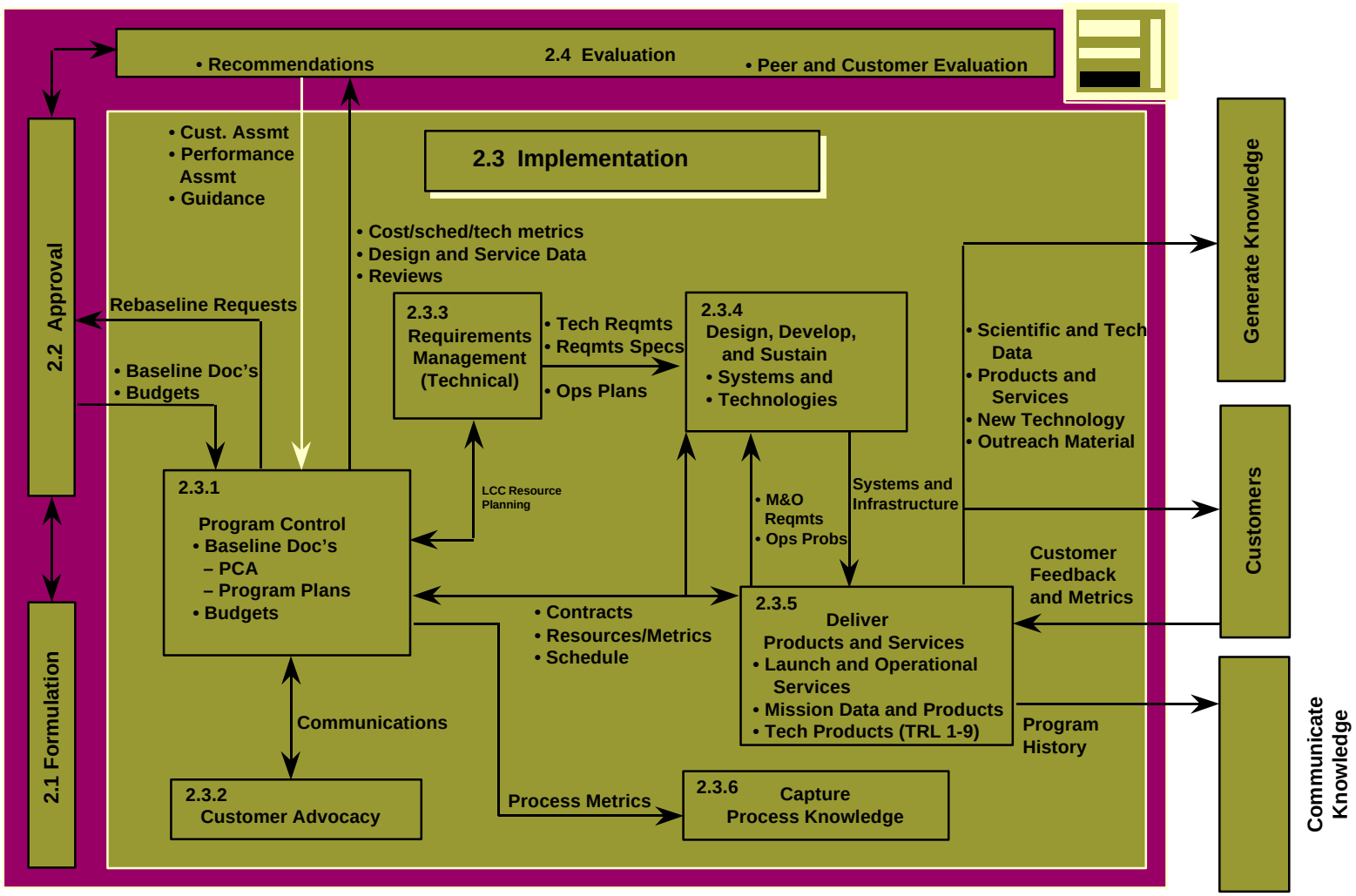
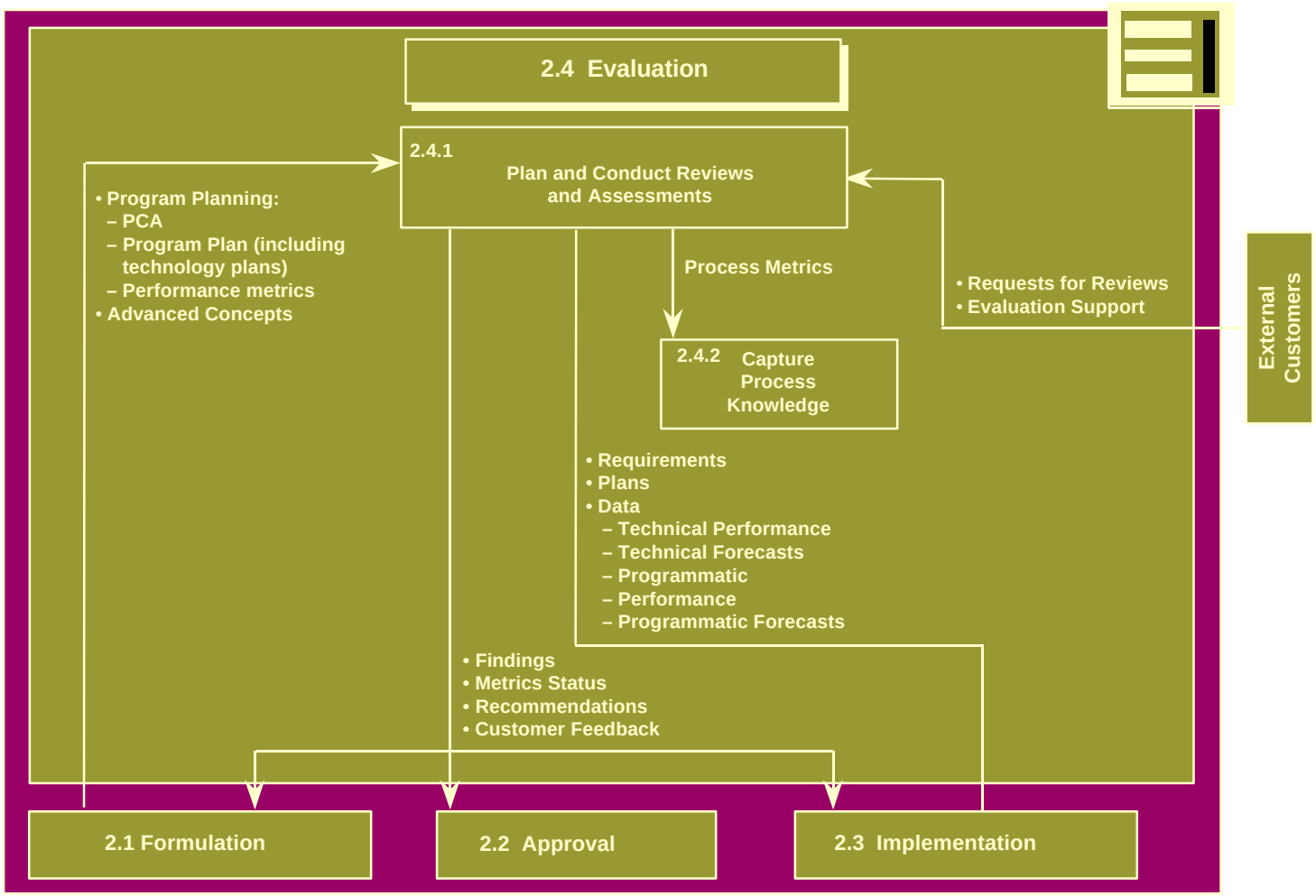
Implementation Subprocess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Evaluation Subprocess